

Refine Search

Search Results -

Term	Documents
(3 NOT 4).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	13
(L3 NOT L4).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	13

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DATE: Wednesday, October 25, 2006 [Purge Queries](#) [Printable Copy](#) [Create Case](#)

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DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES;
 OP=AND

<u>L5</u>	L3 not L4	13	<u>L5</u>
<u>L4</u>	L3 and ((methylophilic adj yeast) or Pichia)	43	<u>L4</u>
<u>L3</u>	L2 and (vector)	56	<u>L3</u>
<u>L2</u>	(mannosidase) and (OCH1)	57	<u>L2</u>
<u>L1</u>	Contreras-Roland.in.	15	<u>L1</u>

END OF SEARCH HISTORY



Day : Wednesday

Date: 10/25/2006

Time: 16:13:54

Inventor Name Search

Enter the first few letters of the Inventor's Last Name.
Additionally, enter the first few letters of the Inventor's First name.

Last Name**First Name**

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**PALM INTRANET**

Day : Wednesday

Date: 10/25/2006

Time: 16:13:54

Inventor Name Search

Enter the **first few letters** of the Inventor's Last Name.
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Last Name**First Name**

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*** ANNOUNCEMENTS ***

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***Verdict Market Research (File 769)
***EMCare (File 45)
***Trademarkscan - South Korea (File 655)
***Regulatory Affairs Journals (File 183)
***Index Chemicus (File 302)
***Inspec (File 202)

RESUMED UPDATING

***File 141, Reader's Guide Abstracts

RELOADS COMPLETED

***File 11, PsycInfo
***File 531, American Business Directory
*** The 2005 reload of the CLAIMS files (Files 340, 341, 942)
is now available online.

DATABASES REMOVED

***File 196, FINDEX
***File 468, Public Opinion Online (POLL)
Chemical Structure Searching now available in Prous Science Drug
Data Report (F452), Prous Science Drugs of the Future (F453),
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Facts (F390), Derwent Chemistry Resource (F355) and Index Chemicus
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File 1:ERIC 1966-2006/Sep
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Set	Items	Description
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Cost is in DialUnits
?

B 155, 5, 73

25oct06 15:42:10	User259876	Session D937.1
\$0.81	0.232	DialUnits File1
\$0.81		Estimated cost File1
\$0.08		INTERNET
\$0.89		Estimated cost this search
\$0.89		Estimated total session cost 0.232 DialUnits

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File 155:MEDLINE(R) 1950-2006/Oct 23
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File 5:Biosis Previews(R) 1969-2006/Oct W3

(c) 2006 The Thomson Corporation
 File 73:EMBASE 1974-2006/Oct 25
 (c) 2006 Elsevier B.V.

Set	Items	Description
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?

S (MANNOSIDASE) AND (OCH1)
 8876 MANNOSIDASE
 95 OCH1
 S1 9 (MANNOSIDASE) AND (OCH1)

?

RD
 S2 6 RD (unique items)

?

T S2/3,K/ALL

2/3,K/1 (Item 1 from file: 155)
 DIALOG(R) File 155:MEDLINE(R)
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20732026 PMID: 16407250

Functional characterization of the Hansenula polymorpha HOC1, OCH1, and OCR1 genes as members of the yeast OCH1 mannosyltransferase family involved in protein glycosylation.

Kim Moo Woong; Kim Eun Jung; Kim Jeong-Yoon; Park Jeong-Seok; Oh Doo-Byoung; Shimma Yoh-ichi; Chiba Yasunori; Jigami Yoshifumi; Rhee Sang Ki; Kang Hyun Ah

Metabolic Engineering Laboratory, Korea Research Institute of Bioscience and Biotechnology, Daejeon 305-600, Korea.

Journal of biological chemistry (United States) Mar 10 2006, 281 (10) p6261-72, ISSN 0021-9258--Print Journal Code: 2985121R

Publishing Model Print-Electronic

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Functional characterization of the Hansenula polymorpha HOC1, OCH1, and OCR1 genes as members of the yeast OCH1 mannosyltransferase family involved in protein glycosylation.

The alpha-1,6-mannosyltransferase encoded by *Saccharomyces cerevisiae* OCH1 (ScOCH1) is responsible for the outer chain initiation of N-linked oligosaccharides. To identify the...

... functional analysis of three *H. polymorpha* genes, HpHOC1, HpOCH1, and HpOCR1, that belong to the OCH1 family containing seven members with significant sequence identities to ScOCH1. The deletions of these H...

... hypermannosylation. Although the apparent phenotypes of HpocrlDelta were most similar to those of *S. cerevisiae* och1 mutants, the detailed structural analysis of N-glycans revealed that the major defect of HpocrlDelta...

... the O-linked glycosylation of extracellular chitinase, representing HpOCR1 as a novel member of the OCH1 family implicated in both N- and O-linked glycosylation. In contrast, addition of the first...

... growth of its wild type under normal growth conditions. The complementation of the *S. cerevisiae* och1 null mutation by the expression of HpoCH1 and the lack of in vitro alpha-1...

... ScOCH1. The engineered HpoCH1Delta strain with the targeted expression of *Aspergillus saitoi* alpha-1,2- mannosidase in the endoplasmic reticulum was shown to produce human-compatible high mannose-type Man5GlcNAc2 oligosaccharide...

Chemical Name: Fungal Proteins; Membrane Glycoproteins; Membrane Proteins ; *Saccharomyces cerevisiae* Proteins; OCH1 protein, *S. cerevisiae*; Glycosyltransferases; HOC1 protein; Mannosyltransferases; alpha 1,6-mannosyltransferase

2/3,K/2 (Item 2 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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14874056 PMID: 15128513

In vivo synthesis of mammalian-like, hybrid-type N-glycans in *Pichia pastoris*.

Vervecken Wouter; Kaigorodov Vladimir; Callewaert Nico; Geysens Steven; De Vusser Kristof; Contreras Roland

Department of Molecular Biomedical Research, Ghent University and Flanders Interuniversity Institute for Biotechnology, Ghent, Belgium.

Applied and environmental microbiology (United States) May 2004, 70

(5) p2639-46, ISSN 0099-2240--Print Journal Code: 7605801

Publishing Model Print

Document type: Evaluation Studies; Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

... *pastoris* N-glycosylation pathway to produce nonhyperglycosylated hybrid glycans. This was accomplished by inactivation of OCH1 and overexpression of an alpha-1,2- mannosidase retained in the endoplasmic reticulum and N-acetylglucosaminyltransferase I and beta-1,4-galactosyltransferase retained...

2/3,K/3 (Item 3 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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14863028 PMID: 15033937

Functional analysis of the ALG3 gene encoding the Dol-P-Man: Man5GlcNAc2-PP-Dol mannosyltransferase enzyme of *P. pastoris*.

Davidson Robert C; Nett Juergen H; Renfer Eduard; Li Huijuan; Stadheim Terrance A; Miller Benton J; Miele Robert G; Hamilton Stephen R; Choi Byung-Kwon; Mitchell Teresa I; Wildt Stefan

Glycofi, Inc., 21 Lafayette Street Suite 200, Lebanon, NH 03766 Velocity 11; 435 Acacia Ave., Palo Alto, CA 94306, USA.

Glycobiology (England) May 2004, 14 (5) p399-407, ISSN 0959-6658--Print Journal Code: 9104124

Publishing Model Print-Electronic

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

...Dol-PP to Man(6)GlcNAc(2)-Dol-PP. Deletion of this gene in an och1 mutant background resulted in the secretion of glycoproteins with a predicted Man(5)GlcNAc(2)...

...that could be trimmed to Man(3)GlcNAc(2) by in vitro alpha-1,2-mannosidase treatment. However, several larger glycans ranging from Hex(6)GlcNAc(2) to Hex(12)GlcNAc(2) were also observed that were recalcitrant to an array of mannosidase digests. These results contrast the far simpler glycan profile found in *Saccharomyces cerevisiae* alg3-1 och1, indicating diverging Golgi processing in these two closely related yeasts. Finally, analysis of the P...

2/3,K/4 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2006 The Thomson Corporation. All rts. reserv.

0015065263 BIOSIS NO.: 200400436052

Protein glycosylation modification in *Pichia pastoris*
AUTHOR: Contreras Roland (Reprint); Callewaert Nico L M; Geysens Steven C J
AUTHOR ADDRESS: Merelbeke, Belgium**Belgium
JOURNAL: Official Gazette of the United States Patent and Trademark Office
Patents 1287 (2): Oct. 12, 2004 2004
MEDIUM: e-file
PATENT NUMBER: US 6803225 PATENT DATE GRANTED: October 12, 2004 20041012
PATENT CLASSIFICATION: 435-2542 PATENT ASSIGNEE: Flanders Interuniversity
Institute for Biotechnology, Zwijnaarde, Belgium PATENT COUNTRY: USA
ISSN: 0098-1133 (ISSN print)
DOCUMENT TYPE: Patent
RECORD TYPE: Abstract
LANGUAGE: English

...ABSTRACT: the present invention are capable of expressing either or both of an (alpha-1,2- mannosidase and glucosidase II. The genetically engineered strains of the present invention can be further modified such that the OCH1 gene is disrupted. Methods of producing glycoproteins with reduced glycosylation using such genetically engineered stains...

2/3,K/5 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2006 Elsevier B.V. All rts. reserv.

13866542 EMBASE No: 2006271736

Functional characterization of the *Hansenula polymorpha* HOC1, OCH1, and OCR1 genes as members of the yeast OCH1 mannosyltransferase family involved in protein glycosylation
Moo W.K.; Eun J.; Kim J.-Y.; Park J.-S.; Oh D.-B.; Shimma Y.-I.; Chiba Y.; Jigami Y.; Sang K.R.; Hyun A.K.
A.K. Hyun, Metabolic Engineering Laboratory, Korea Research Institute of Bioscience and Biotechnology, Oun-dong 52, Yusong-gu, Daejeon, 305-600 South Korea
AUTHOR EMAIL: hyunkang@kribb.re.kr
Journal of Biological Chemistry (J. BIOL. CHEM.) (United States) 10
MAR 2006, 281/10 (6261-6272)
CODEN: JBCHA ISSN: 0021-9258 eISSN: 1083-351X
DOCUMENT TYPE: Journal ; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 36

Functional characterization of the Hansenula polymorpha HOC1, OCH1, and OCRI genes as members of the yeast OCH1 mannosyltransferase family involved in protein glycosylation

The alpha-1,6-mannosyltransferase encoded by *Saccharomyces cerevisiae* OCH1 (ScOCH1) is responsible for the outer chain initiation of N-linked oligosaccharides. To identify the...

...functional analysis of three *H. polymorpha* genes, HpHOC1, HpOCH1, and HpOCRI, that belong to the OCH1 family containing seven members with significant sequence identities to ScOCH1. The deletions of these H...

...hypermannosylation. Although the apparent phenotypes of HpocriDELTA were most similar to those of *S. cerevisiae* och1 mutants, the detailed structural analysis of N-glycans revealed that the major defect of HpocriDELTA...

...the O-linked glycosylation of extracellular chitinase, representing HpOCRI as a novel member of the OCH1 family implicated in both N- and O-linked glycosylation. In contrast, addition of the first...

...growth of its wild type under normal growth conditions. The complementation of the *S. cerevisiae* och1 null mutation by the expression of HpOCH1 and the lack of in vitro alpha-1...

...ScOCH1. The engineered Hpoch1DELTA strain with the targeted expression of *Aspergillus saitoi* alpha-1,2- mannosidase in the endoplasmic reticulum was shown to produce human-compatible high mannose-type ManSUB5GlcNAcSUB2 oligosaccharide...

DRUG DESCRIPTORS:

chitinase; fungal enzyme--endogenous compound--ec; oligosaccharide; alpha mannosidase ; unclassified drug

MEDICAL TERMS (UNCONTROLLED): och1 gene; hoc1 gene; ocrl gene

CAS REGISTRY NO.: 9055-06-5 (mannosyltransferase); 9001-06-3 (chitinase); 9025-42-7 (alpha mannosidase)

2/3,K/6 (Item 2 from file: 73)

DIALOG(R)File 73:EMBASE

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12648159 EMBASE No: 2004249027

Functional analysis of the ALG3 gene encoding the Dol-P-Man:

ManSUB5GlcNAcSUB2-PP-Dol mannosyltransferase enzyme of *P. pastoris*

Davidson R.C.; Nett J.H.; Renfer E.; Li H.; Stadheim T.A.; Miller B.J.; Miele R.G.; Hamilton S.R.; Choi B.-K.; Mitchell I.T.; Wildt S.

S. Wildt, Glycofi Inc., 21 Lafayette Street, Lebanon, NH 03766 United States

AUTHOR EMAIL: swildt@glycofi.com

Glycobiology (GLYCOBIOLOGY) (United Kingdom) 2004, 14/5 (399-407)

CODEN: GLYCE ISSN: 0959-6658

DOCUMENT TYPE: Journal ; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 37

...that converts ManSUB5-GlcNAcSUB2Dol-PP to ManSUB6GlcNAcSUB2-Dol-PP. Deletion of this gene in an och1 mutant background resulted in the secretion of glycoproteins with a predicted ManSUB5GlcNAcSUB2 structure that could be trimmed to ManSUB3GlcNAcSUB2 by in vitro alpha-1,2-mannosidase treatment. However, several larger glycans ranging from

HexSUB6GlcNACSUB2 to HexSUB12GcNACSUB2 were also observed that were recalcitrant to an array of mannosidase digests. These results contrast the far simpler glycan profile found in *Saccharomyces cerevisiae* alg3-1 och1, indicating diverging Golgi processing in these two closely related yeasts. Finally, analysis of the P...

DRUG DESCRIPTORS:

glycan derivative--endogenous compound--ec; glycoprotein--endogenous compound--ec; alpha mannosidase

CAS REGISTRY NO.: 55598-56-6 (dolichol phosphate mannose); 9055-06-5 (mannosyltransferase); 9025-42-7 (alpha mannosidase)

?

Set	Items	Description
S1	9	(MANNOSIDASE) AND (OCH1)
S2	6	RD (unique items)

?

S OCH1

S3	95	OCH1
----	----	------

?

S S3 AND ((METHYLOTROPHIC (W) YEAST) OR PICHIA)

95	S3
4100	METHYLOTROPHIC
307879	YEAST
1805	METHYLOTROPHIC(W) YEAST
11061	PICHIA

S4	12	S3 AND ((METHYLOTROPHIC (W) YEAST) OR PICHIA)
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?

RD

S5	9	RD (unique items)
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?

T S5/3,K/ALL

5/3,K/1 (Item 1 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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21799179 PMID: 16960330

Molecular cloning and characterization of a *Pichia pastoris* ortholog of the yeast Golgi GDP-mannose transporter gene.

Arakawa Kumiko; Abe Masato; Noda Yoichi; Adachi Hiroyuki; Yoda Koji

Department of Biotechnology, University of Tokyo, Japan.

Journal of general and applied microbiology (Japan) Jun 2006, 52 (3)

p137-45, ISSN 0022-1260--Print Journal Code: 0165543

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Molecular cloning and characterization of a *Pichia pastoris* ortholog of the yeast Golgi GDP-mannose transporter gene.

...as recognized by a large number of Golgi marker proteins. In contrast, the Golgi of *Pichia pastoris* was reported to be organized in a small number of stacked cisternae located near...

... The tagged product in *P. pastoris* cell was observed in rod-like compartments in which Och1 mannosyltransferase was also found and the tER marker Sec12 and Sec13 proteins localized very close...

Descriptors: *Carrier Proteins--genetics--GE; *Pichia --genetics--GE

5/3,K/2 (Item 2 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2006 Dialog. All rts. reserv.

20732026 PMID: 16407250

Functional characterization of the Hansenula polymorpha HOC1, OCH1, and OCR1 genes as members of the yeast OCH1 mannosyltransferase family involved in protein glycosylation.

Kim Moo Woong; Kim Eun Jung; Kim Jeong-Yoon; Park Jeong-Seok; Oh Doo-Byoung; Shimma Yoh-ichi; Chiba Yasunori; Jigami Yoshifumi; Rhee Sang Ki; Kang Hyun Ah

Metabolic Engineering Laboratory, Korea Research Institute of Bioscience and Biotechnology, Daejeon 305-600, Korea.

Journal of biological chemistry (United States) Mar 10 2006, 281 (10)

p6261-72, ISSN 0021-9258--Print Journal Code: 2985121R

Publishing Model Print-Electronic

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Functional characterization of the Hansenula polymorpha HOC1, OCH1, and OCR1 genes as members of the yeast OCH1 mannosyltransferase family involved in protein glycosylation.

The alpha-1,6-mannosyltransferase encoded by *Saccharomyces cerevisiae* OCH1 (ScOCH1) is responsible for the outer chain initiation of N-linked oligosaccharides. To identify the genes involved in the first step of outer chain biosynthesis in the methylotrophic yeast *Hansenula polymorpha*, we undertook the functional analysis of three *H. polymorpha* genes, HpHOC1, HpOCH1, and HpOCR1, that belong to the OCH1 family containing seven members with significant sequence identities to ScOCH1. The deletions of these H...

...hypermannosylation. Although the apparent phenotypes of HpocrlDelta were most similar to those of *S. cerevisiae* och1 mutants, the detailed structural analysis of N-glycans revealed that the major defect of HpocrlDelta...

... the O-linked glycosylation of extracellular chitinase, representing HpOCR1 as a novel member of the OCH1 family implicated in both N- and O-linked glycosylation. In contrast, addition of the first...

... growth of its wild type under normal growth conditions. The complementation of the *S. cerevisiae* och1 null mutation by the expression of HpOCH1 and the lack of in vitro alpha-1...

...Descriptors: Proteins--metabolism--ME; *Glycosyltransferases--genetics--GE; *Mannosyltransferases--genetics--GE; *Membrane Proteins--genetics--GE; *Multigene Family; *Pichia --genetics--GE...; Glycoproteins--chemistry--CH; Membrane Proteins--chemistry--CH; Membrane Proteins--physiology--PH; Molecular Sequence Data; Mutation; Pichia --enzymology--EN; Research Support, Non-U.S. Gov't; *Saccharomyces cerevisiae* Proteins--chemistry--CH; Sequence...

Chemical Name: Fungal Proteins; Membrane Glycoproteins; Membrane Proteins; *Saccharomyces cerevisiae* Proteins; OCH1 protein, *S. cerevisiae*;

Glycosyltransferases; HOC1 protein; Mannosyltransferases; alpha
1,6-mannosyltransferase

5/3,K/3 (Item 3 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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14874056 PMID: 15128513

In vivo synthesis of mammalian-like, hybrid-type N-glycans in *Pichia pastoris*.

Vervecken Wouter; Kaigorodov Vladimir; Callewaert Nico; Geysens Steven;
De Vusser Kristof; Contreras Roland

Department of Molecular Biomedical Research, Ghent University and
Flanders Interuniversity Institute for Biotechnology, Ghent, Belgium.

Applied and environmental microbiology (United States) May 2004, 70
(5) p2639-46, ISSN 0099-2240--Print Journal Code: 7605801

Publishing Model Print

Document type: Evaluation Studies; Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

In vivo synthesis of mammalian-like, hybrid-type N-glycans in *Pichia pastoris*.

The *Pichia pastoris* N-glycosylation pathway is only partially homologous to the pathway in human cells. In the Golgi apparatus, human cells synthesize complex oligosaccharides, whereas *Pichia* cells form mannose structures that can contain up to 40 mannose residues. This hypermannosylation of...

... *pastoris* N-glycosylation pathway to produce nonhyperglycosylated hybrid glycans. This was accomplished by inactivation of OCH1 and overexpression of an alpha-1,2-mannosidase retained in the endoplasmic reticulum and N...

Descriptors: *Genetic Engineering--methods--MT; * *Pichia* --metabolism--ME; *Polysaccharides--biosynthesis--BI...; Humans; Mannosidases--genetics--GE; Mannosidases--metabolism--ME; N-Acetylglucosaminyltransferases--genetics--GE; N-Acetylglucosaminyltransferases--metabolism--ME; *Pichia* --genetics--GE; *Pichia* --growth and development--GD; Polysaccharides--chemistry--CH; Recombinant Fusion Proteins--genetics--GE; Recombinant Fusion Proteins ...

5/3,K/4 (Item 4 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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14863028 PMID: 15033937

Functional analysis of the ALG3 gene encoding the Dol-P-Man: Man5GlcNAc2-PP-Dol mannosyltransferase enzyme of *P. pastoris*.

Davidson Robert C; Nett Juergen H; Renfer Eduard; Li Huijuan; Stadheim Terrance A; Miller Benton J; Miele Robert G; Hamilton Stephen R; Choi Byung-Kwon; Mitchell Teresa I; Wildt Stefan

Glycofi, Inc., 21 Lafayette Street Suite 200, Lebanon, NH 03766 Velocity
11; 435 Acacia Ave., Palo Alto, CA 94306, USA.

Glycobiology (England) May 2004, 14 (5) p399-407, ISSN 0959-6658--
Print Journal Code: 9104124

Publishing Model Print-Electronic

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM
Record type: MEDLINE; Completed

...the Golgi, where additional but divergent processing occurs in mammals and fungi. We cloned the *Pichia pastoris* homolog of the ALG3 gene, which encodes the enzyme that converts Man(5)GlcNAc...

...Dol-PP to Man(6)GlcNAc(2)-Dol-PP. Deletion of this gene in an och1 mutant background resulted in the secretion of glycoproteins with a predicted Man(5)GlcNAc(2...

... digests. These results contrast the far simpler glycan profile found in *Saccharomyces cerevisiae* alg3-1 och1, indicating diverging Golgi processing in these two closely related yeasts. Finally, analysis of the P ...

...Descriptors: ME; *Golgi Apparatus--metabolism--ME; *Mannosyltransferases--genetics--GE; *Membrane Proteins--genetics--GE; *Oligosaccharides--metabolism--ME; * *Pichia* --enzymology--EN; **Saccharomyces cerevisiae* Proteins--genetics--GE...; metabolism--ME; Mannosidases--metabolism--ME; Mannosyltransferases--metabolism--ME; Membrane Proteins--metabolism--ME; Molecular Sequence Data; *Pichia* --genetics--GE; Polysaccharides--metabolism--ME; *Saccharomyces cerevisiae*--enzymology--EN; *Saccharomyces cerevisiae*--genetics--GE; *Saccharomyces cerevisiae*...

5/3,K/5 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0015065263 BIOSIS NO.: 200400436052

Protein glycosylation modification in *Pichia pastoris*

AUTHOR: Contreras Roland (Reprint); Callewaert Nico L M; Geysens Steven C J

AUTHOR ADDRESS: Merelbeke, Belgium**Belgium

JOURNAL: Official Gazette of the United States Patent and Trademark Office
Patents 1287 (2): Oct. 12, 2004 2004

MEDIUM: e-file

PATENT NUMBER: US 6803225 PATENT DATE GRANTED: October 12, 2004 20041012

PATENT CLASSIFICATION: 435-2542 PATENT ASSIGNEE: Flanders Interuniversity
Institute for Biotechnology, Zwijnaarde, Belgium PATENT COUNTRY: USA

ISSN: 0098-1133 (ISSN print)

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

Protein glycosylation modification in *Pichia pastoris*

ABSTRACT: The present invention provides genetically engineered strains of *Pichia* capable of producing proteins with reduced glycosylation. In particular, the genetically engineered strains of the...

...The genetically engineered strains of the present invention can be further modified such that the OCH1 gene is disrupted. Methods of producing glycoproteins with reduced glycosylation using such genetically engineered strains of *Pichia* are also provided.

DESCRIPTORS:

ORGANISMS: *Pichia pastoris* (Ascomycetes)

5/3,K/6 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0014652485 BIOSIS NO.: 200400023242

Cloning and disruption of the PpURA5 gene and construction of a set of integration vectors for the stable genetic modification of Pichia pastoris.

AUTHOR: Nett Juergen H; Gerngross Tillman U (Reprint)

AUTHOR ADDRESS: Thayer School of Engineering, Dartmouth College, 8000
Cummings Hall, Hanover, NH, 03755, USA**USA

AUTHOR E-MAIL ADDRESS: tillman.gerngross@dartmouth.edu

JOURNAL: Yeast 20 (15): p1279-1290 November 2003 2003

MEDIUM: print

ISSN: 0749-503X (ISSN print)

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

...gene and construction of a set of integration vectors for the stable genetic modification of Pichia pastoris.

DESCRIPTORS:

ORGANISMS: Pichia pastoris (Ascomycetes...

GENE NAME: Pichia pastoris OCH1 gene (Ascomycetes...

... Pichia pastoris SEC65 gene (Ascomycetes...

... Pichia pastoris URA3 gene (Ascomycetes...

... Pichia pastoris URA5 gene (Ascomycetes)

5/3,K/7 (Item 3 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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0014462031 BIOSIS NO.: 200300417693

Molecular analysis of HpOCH1 and HpHOC1, two novel genes involved in cell wall integrity and N-linked glycosylation in the methylotrophic yeast Hansenula polymorpha.

AUTHOR: Kim Moo Woong (Reprint); Kim Jeong-Yoon; Oh Yun Wi (Reprint); Rhee Sang Ki (Reprint); Kang Hyun Ah (Reprint)

AUTHOR ADDRESS: Metabolic Engineering Lab, KRIBB, Yusong-gu, Daejeon,
305-600, South Korea**South Korea

AUTHOR E-MAIL ADDRESS: hyunkang@kribb.re.kr

JOURNAL: Yeast 20 (Supplement 1): pS148 July 2003 2003

MEDIUM: print

CONFERENCE/MEETING: XXist International Conference on Yeast Genetics and
Molecular Biology Goeteborg, Sweden July 07-12, 2003; 20030707

ISSN: 0749-503X (ISSN print)

DOCUMENT TYPE: Meeting; Meeting Abstract

RECORD TYPE: Citation

LANGUAGE: English

...HpHOC1, two novel genes involved in cell wall integrity and N-linked glycosylation in the methylotrophic yeast Hansenula polymorpha.

DESCRIPTORS:

...ORGANISMS: methylotrophic yeast, thermotolerant

...GENE NAME: Saccharomyces cerevisiae OCH1 gene (Ascomycetes...

5/3,K/8 (Item 1 from file: 73)

DIALOG(R)File 73:EMBASE

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13866542 EMBASE No: 2006271736

Functional characterization of the Hansenula polymorpha HOC1, OCH1, and OCR1 genes as members of the yeast OCH1 mannosyltransferase family involved in protein glycosylation

Moo W.K.; Eun J.; Kim J.-Y.; Park J.-S.; Oh D.-B.; Shimma Y.-I.; Chiba Y.; Jigami Y.; Sang K.R.; Hyun A.K.

A.K. Hyun, Metabolic Engineering Laboratory, Korea Research Institute of Bioscience and Biotechnology, Oun-dong 52, Yusong-gu, Daejeon, 305-600 South Korea

AUTHOR EMAIL: hyunkang@kribb.re.kr

Journal of Biological Chemistry (J. BIOL. CHEM.) (United States) 10

MAR 2006, 281/10 (6261-6272)

CODEN: JBCHA ISSN: 0021-9258 eISSN: 1083-351X

DOCUMENT TYPE: Journal ; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 36

Functional characterization of the Hansenula polymorpha HOC1, OCH1, and OCR1 genes as members of the yeast OCH1 mannosyltransferase family involved in protein glycosylation

The alpha-1,6-mannosyltransferase encoded by *Saccharomyces cerevisiae* OCH1 (ScOCH1) is responsible for the outer chain initiation of N-linked oligosaccharides. To identify the genes involved in the first step of outer chain biosynthesis in the methylotrophic yeast *Hansenula polymorpha*, we undertook the functional analysis of three *H. polymorpha* genes, HpHOC1, HpOCH1, and HpOCR1, that belong to the OCH1 family containing seven members with significant sequence identities to ScOCH1. The deletions of these H...

...hypermannosylation. Although the apparent phenotypes of Hpocr1DELTA were most similar to those of *S. cerevisiae* och1 mutants, the detailed structural analysis of N-glycans revealed that the major defect of Hpocr1DELTA...

...the O-linked glycosylation of extracellular chitinase, representing HpOCR1 as a novel member of the OCH1 family implicated in both N- and O-linked glycosylation. In contrast, addition of the first...

...growth of its wild type under normal growth conditions. The complementation of the *S. cerevisiae* och1 null mutation by the expression of HpOCH1 and the lack of in vitro alpha-1...

MEDICAL TERMS (UNCONTROLLED): och1 gene; hoc1 gene; ocr1 gene

5/3,K/9 (Item 2 from file: 73)

DIALOG(R)File 73:EMBASE

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12648159 EMBASE No: 2004249027

Functional analysis of the ALG3 gene encoding the Dol-P-Man:

MansUB5GlcNAcSUB2-PP-Dol mannosyltransferase enzyme of *P. pastoris*

Davidson R.C.; Nett J.H.; Renfer E.; Li H.; Stadheim T.A.; Miller B.J.; Miele R.G.; Hamilton S.R.; Choi B.-K.; Mitchell I.T.; Wildt S.

S. Wildt, Glycofi Inc., 21 Lafayette Street, Lebanon, NH 03766 United States

AUTHOR EMAIL: swildt@glycofi.com

Glycobiology (GLYCOBIOLOGY) (United Kingdom) 2004, 14/5 (399-407)

CODEN: GLYCE ISSN: 0959-6658

DOCUMENT TYPE: Journal ; Article
 LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
 NUMBER OF REFERENCES: 37

...the Golgi, where additional but divergent processing occurs in mammals and fungi. We cloned the *Pichia pastoris* homolog of the ALG3 gene, which encodes the enzyme that converts ManSUB5-GlcNAcSUB2Dol-PP to ManSUB6GlcNAcSUB2-Dol-PP. Deletion of this gene in an och1 mutant background resulted in the secretion of glycoproteins with a predicted ManSUB5GlcNAcSUB2 structure that could...
 ...digests. These results contrast the far simpler glycan profile found in *Saccharomyces cerevisiae* alg3-1 och1, indicating diverging Golgi processing in these two closely related yeasts. Finally, analysis of the P

MEDICAL DESCRIPTORS:

gene function; genetic code; *Pichia pastoris*; carbohydrate synthesis; molecular cloning; gene deletion; mutant; in vitro study; *Saccharomyces cerevisiae*; Golgi complex...

?

Set	Items	Description
S1	9	(MANNOSIDASE) AND (OCH1)
S2	6	RD (unique items)
S3	95	OCH1
S4	12	S3 AND ((METHYLOTROPHIC (W) YEAST) OR PICHIA)
S5	9	RD (unique items)

?

S (MANNOSIDASE) AND ((METHYLOTROPHIC (W) YEAST) OR PICHIA)

8876 MANNOSIDASE
 4100 METHYLOTROPHIC
 307879 YEAST
 1805 METHYLOTROPHIC (W) YEAST
 11061 PICHIA

S6 89 (MANNOSIDASE) AND ((METHYLOTROPHIC (W) YEAST) OR PICHIA)

?

S S6 NOT PY>2000

89 S6
 9480752 PY>2000
 S7 46 S6 NOT PY>2000

?

RD

S8 21 RD (unique items)

?

S S8 AND (VECTOR OR PLASMID)

21 S8
 318011 VECTOR
 211924 PLASMID

S9 1 S8 AND (VECTOR OR PLASMID)

?

T S9/3,K/ALL

9/3,K/1 (Item 1 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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12027034 PMID: 9858640

Cloning, expression, purification, and characterization of the acid alpha-mannosidase from Trypanosoma cruzi.

Vandersall-Nairn A S; Merkle R K; O'Brien K; Oeltmann T N; Moremen K W
Complex Carbohydrate Research Center and the Department of Biochemistry
and Molecular Biology, University of Georgia, Athens, GA 30602, USA.

Glycobiology (ENGLAND) Dec 1998, 8 (12) p1183-94, ISSN 0959-6658--
Print Journal Code: 9104124

Contract/Grant No.: GM47533; GM; NIGMS; RR05351; RR; NCRR

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Cloning, expression, purification, and characterization of the acid alpha-mannosidase from Trypanosoma cruzi.

The acid alpha-mannosidase of *Trypanosoma cruzi* is a broad-specificity hydrolase involved in the catabolism of glycoconjugates, presumably in the digestive vacuole. We have cloned the alpha-mannosidase gene from a *T. cruzi* epimastigote genomic library. The alpha-mannosidase gene was determined to be single copy by Southern analysis, and similar sequences were not...

... digests of either *Trypanosoma brucei* or *Leishmania donovani*. The coding region was subcloned into the *Pichia pastoris* expression vector pPICZ, and alpha-mannosidase activity was detected in the medium of induced cultures. The recombinant alpha-mannosidase demonstrated a pH optimum, inhibition by swainsonine, Km, and substrate specificity consistent with the characteristics of the alpha-mannosidase previously purified from *T. cruzi* epimastigotes. The recombinant enzyme was purified 103-fold from the culture medium of *Pichia pastoris* and had a native molecular mass of 359 kDa by gel filtration. A combination...

... subunits. A polyclonal antibody raised to the recombinant enzyme was shown to immunoprecipitate the alpha-mannosidase from *T. cruzi* cell extracts and will be used in future immunolocalization studies.

...; H.S.; Sequence Analysis, DNA; Sequence Homology, Amino Acid; Substrate Specificity; Swainsonine--pharmacology--PD; alpha-Mannosidase Enzyme No.: EC 3.2.1. (Mannosidases); EC 3.2.1.24 (alpha-Mannosidase)

Chemical Name: Enzyme Inhibitors; Oligosaccharides; RNA, Messenger; Recombinant Proteins; Swainsonine; Mannosidases; alpha-Mannosidase
?

Set	Items	Description
S1	9	(MANNOSIDASE) AND (OCH1)
S2	6	RD (unique items)
S3	95	OCH1
S4	12	S3 AND ((METHYLOTROPHIC (W) YEAST) OR PICHIA)
S5	9	RD (unique items)
S6	89	(MANNOSIDASE) AND ((METHYLOTROPHIC (W) YEAST) OR PICHIA)
S7	46	S6 NOT PY>2000
S8	21	RD (unique items)
S9	1	S8 AND (VECTOR OR PLASMID)
?		

S (MODIFICATION) (S) (GLYCOSYLATION)

353397 MODIFICATION
 79658 GLYCOSYLATION
 S10 3380 (MODIFICATION) (S) (GLYCOSYLATION)

?

S S8 AND S10

21 S8
 3380 S10
 S11 1 S8 AND S10

?

T S11/3,K/ALL

11/3,K/1 (Item 1 from file: 5)
 DIALOG(R) File 5:Biosis Previews(R)
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0011838147 BIOSIS NO.: 199900097807

Modification of the protein glycosylation pathway in the methylotrophic yeast *Pichia pastoris*

AUTHOR: Martinet Wim; Maras Marleen; Saelens Xavier; Jou Willy Min;
 Contreras Roland (Reprint)

AUTHOR ADDRESS: Unit Fundam. Appl. Mol. Biol., Dep. Mol. Biol., Flanders
 Interuniv. Inst. Biotechnol. Univ. Ghent, K.L. Ledeganckstr. 35, B-9000
 Ghent, Belgium**Belgium

JOURNAL: Biotechnology Letters 20 (12): p1171-1177 Dec., 1998 1998

MEDIUM: print

ISSN: 0141-5492

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

Modification of the protein glycosylation pathway in the methylotrophic yeast *Pichia pastoris*

ABSTRACT: alpha-1,2- Mannosidase from *Trichoderma reesei* was used to modify the N-linked glycosylation pathway of the methylotrophic yeast *Pichia pastoris*. Expression of foreign influenza glycoproteins with more extensively processed N-linked oligosaccharides was observed when alpha-1,2- mannosidase was secreted in the culture medium. However, intracellular removal of mannose residues may stimulate mannosyltransferase...

...orthovanadate, commonly used to isolate glycosylation mutants of *Saccharomyces cerevisiae*, had no profound effect on *Pichia pastoris*.

...REGISTRY NUMBERS: alpha-1,2- mannosidase ;

DESCRIPTORS:

ORGANISMS: *Pichia pastoris* (Ascomycetes...)

CHEMICALS & BIOCHEMICALS: alpha-1,2- mannosidase ;

MISCELLANEOUS TERMS: ...protein glycosylation pathway...

... modification

?

Set	Items	Description
S1	9	(MANNOSIDASE) AND (OCH1)
S2	6	RD (unique items)
S3	95	OCH1
S4	12	S3 AND ((METHYLOTROPHIC (W) YEAST) OR PICHIA)

S5 9 RD (unique items)
 S6 89 (MANNOSIDASE) AND ((METHYLOTROPHIC (W) YEAST) OR PICHIA)
 S7 46 S6 NOT PY>2000
 S8 21 RD (unique items)
 S9 1 S8 AND (VECTOR OR PLASMID)
 S10 3380 (MODIFICATION) (S) (GLYCOSYLATION)
 S11 1 S8 AND S10
 ?

S S8 AND (TRICHODERMA (W) REESEI)
 21 S8
 14668 TRICHODERMA
 4020 REESEI
 3946 TRICHODERMA(W)REESEI
 S12 2 S8 AND (TRICHODERMA (W) REESEI)
 ?

T S12/3,K/ALL

12/3,K/1 (Item 1 from file: 155)
 DIALOG(R) File 155:MEDLINE(R)
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12618655 PMID: 10682284

Molecular cloning and enzymatic characterization of a *Trichoderma reesei* 1,2-alpha-D-mannosidase.

Maras M; Callewaert N; Piens K; Claeysens M; Martinet W; Dewaele S; Contreras H; Dewerte I; Penttila M; Contreras R

Department of Molecular Biology, Flanders Interuniversity Institute for Biotechnology, Ghent, Belgium.

Journal of biotechnology (NETHERLANDS) Feb 17 2000, 77 (2-3) p255-63
 , ISSN 0168-1656--Print Journal Code: 8411927

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Molecular cloning and enzymatic characterization of a *Trichoderma reesei* 1,2-alpha-D-mannosidase .

A cDNA encoding 1,2-alpha-D-mannosidase mds 1 from *Trichoderma reesei* was cloned. The largest open reading frame occupied 1571 bp. The predicted sequence contains 523...

... from *Aspergillus saitoi* and *Penicillium citrinum* (51.6 and 51.0% identity, respectively). *T. reesei* mannosidase was produced as a recombinant enzyme in the yeast *Pichia pastoris*. Replacement of the N-terminal part with the prepro-signal peptide of the *Saccharomyces*...

... designed and the enzymatic properties were analyzed. The enzyme was characterized as a class-I mannosidase .

...; EN; DNA, Complementary; Mannosidases--chemistry--CH; Molecular Sequence Data; *Penicillium*--enzymology--EN; Peptides--genetics--GE; *Pichia*--enzymology--EN; *Pichia* --genetics--GE; Protein Sorting Signals--genetics--GE; Recombinant Fusion Proteins; Recombinant Proteins; Research Support, Non...

Enzyme No.: EC 3.2.1. (Mannosidases); EC 3.2.1.113 (mannosyl-oligosaccharide 1,2-alpha-mannosidase)

...Chemical Name: Sorting Signals; Recombinant Fusion Proteins; Recombinant Proteins; mating factor; Mannosidases; mannosyl-oligosaccharide 1,2-alpha-mannosidase

12/3,K/2 (Item 1 from file: 5)
 DIALOG(R)File 5:Biosis Previews(R)
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0011838147 BIOSIS NO.: 199900097807

Modification of the protein glycosylation pathway in the methylotrophic yeast *Pichia pastoris*

AUTHOR: Martinet Wim; Maras Marleen; Saelens Xavier; Jou Willy Min;
 Contreras Roland (Reprint)

AUTHOR ADDRESS: Unit Fundam. Appl. Mol. Biol., Dep. Mol. Biol., Flanders
 Interuniv. Inst. Biotechnol. Univ. Ghent, K.L. Ledeganckstr. 35, B-9000
 Ghent, Belgium**Belgium

JOURNAL: Biotechnology Letters 20 (12): p1171-1177 Dec., 1998 1998

MEDIUM: print

ISSN: 0141-5492

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

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...orthovanadate, commonly used to isolate glycosylation mutants of *Saccharomyces cerevisiae*, had no profound effect on *Pichia pastoris*.

...REGISTRY NUMBERS: alpha-1,2- mannosidase ;

DESCRIPTORS:

ORGANISMS: *Pichia pastoris* (Ascomycetes...

... *Trichoderma reesei* (Fungi Imperfecti or Deuteromycetes)

CHEMICALS & BIOCHEMICALS: alpha-1,2- mannosidase ;

?

Set	Items	Description
S1	9	(MANNOSIDASE) AND (OCH1)
S2	6	RD (unique items)
S3	95	OCH1
S4	12	S3 AND ((METHYLOTROPHIC (W) YEAST) OR PICHIA)
S5	9	RD (unique items)
S6	89	(MANNOSIDASE) AND ((METHYLOTROPHIC (W) YEAST) OR PICHIA)
S7	46	S6 NOT PY>2000
S8	21	RD (unique items)
S9	1	S8 AND (VECTOR OR PLASMID)
S10	3380	(MODIFICATION) (S) (GLYCOSYLATION)
S11	1	S8 AND S10
S12	2	S8 AND (TRICHODERMA (W) REESEI)
?		

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